

# Work Order ID 52017

September 11, 2009 11:16:38 AM



Page 1

Item ID: D3936-041  
Revision ID: A  
Item Name: Mapbox Assembly

Accept



Setup Start



Stop



Start Date: 9/11/09 Start Qty: 2.00  
Required Date: 9/25/09 Req'd Qty: 2.00



Cust Item ID:  
Customer:

Reference:

Approvals: Process Plan:  
QC:

*PL*

Date: *0929/11*  
Date:

Tooling:

SPC (Y/N):

Date:

Date:

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
----------	--------------

D3936	A
-------	---

100

0.00



Small Fab

Memo

0.00

Small Fab

Assemble as per dwg

*EP 10/02/10 (3)*

110

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

*S 10/02/10*

*(+3)*

120

Black Sandtex(Ref:4.3.5.7) per QS1005 4.3

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: *10:30 AM*  
OVEN TEMPERATURE: *320°F*  
FINISH TIME: *11:00 PM*

*= 10/02/11*

*(X3)*

*9*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Customer:

Reference:

Approvals: Process Plan:  
QC:

Date:  
Date:

Tooling:

SPC (Y/N):

Date:  
Date:

Run Start  
Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130



QC

Quality Control

QC3- Inspect Part Finish

Memo

0.00

0.00

BL

10-02-11 (3)

140



Small Fab

Small Fab

Memo

INSTALL RUBBER CUSHION AND PLACARD AS PER DWG

0.00

0.00

EP 10/02/16 (3)

150



QC

Quality Control

QC5- Inspect part completeness to step on W/O

Memo

0.00

0.00

8/10/02/16

(73)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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Page 3

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Setup Start



Stop



Start Date: 9/11/09 Start Qty: 2.00



Required Date: 9/25/09 Req'd Qty: 2.00



Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:  
QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Draw  
Number

Draw  
Rev.

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

160

Identify as per dwg & Stock Location: \_\_\_\_\_

0.00



Packaging

Memo

0.00

Packaging

10-2-17

(3X) SP

170

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

10/02/17

10-2-17

(3)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Picklist Print

September 11, 2009 11:16:37 AM

Page 1  
2

Work Order ID: 52017

Parent Item: D3936-041RevA

Parent Item Name: Mapbox Assembly






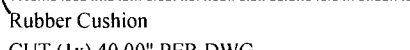

Comments:

Start Date: 9/11/09

Required Date: 9/25/09

Start Qty: 2.00

Required Qty: 2.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3936-1RevA 		Manufactured	No			100	Each	0.0000	2.0000			
Sides D3936-3RevA 		Manufactured	No			100	Each	0.0000	2.0000			
Bottom D3936-5RevA 		Manufactured	No			100	Each	0.0000	2.0000			
Divider D3938-3RevB 		Manufactured	No			140	Each	0.0000	4.0000			
Placard D3941-40RevA 		Purchased	No			140	Each	0.0000	4.0000			
Rubber Cushion CUT (1x) 40.00" PER DWG D3941-12RevA 		Purchased	No			140	Each	0.0000	4.0000			
Rubber Cushion CUT (1X) 12.00" PER DWG MS20426AD3-4 		Purchased	No			100	Each	8,237.000	12.0000			
RIVET												

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

8237

104374

4237

110398

4000

224

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

September 11, 2009 11:16:37 AM

Page 2

Work Order ID: 52017

Parent Item: D3936-041RevA

Parent Item Name: Mapbox Assembly

Comments:

Start Date: 9/11/09

Required Date: 9/25/09

Start Qty: 2.00

Required Qty: 2.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
MS20426AD3-5		Purchased	No			100	Each	15,997.00	24 6.0000			



Rivet



*Handwritten signature*  
9/25/09

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

15997

4179

4159

4444

5678

4533

6160

24

September 11, 2009 11:16:37 AM

Shop Packet Print

Page 2

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

SHOP COPY

RETURN TO

ENGINEERING

UNCONTROLLED COPY

SUBJECT TO AMENDMENT

WITHOUT NOTICE

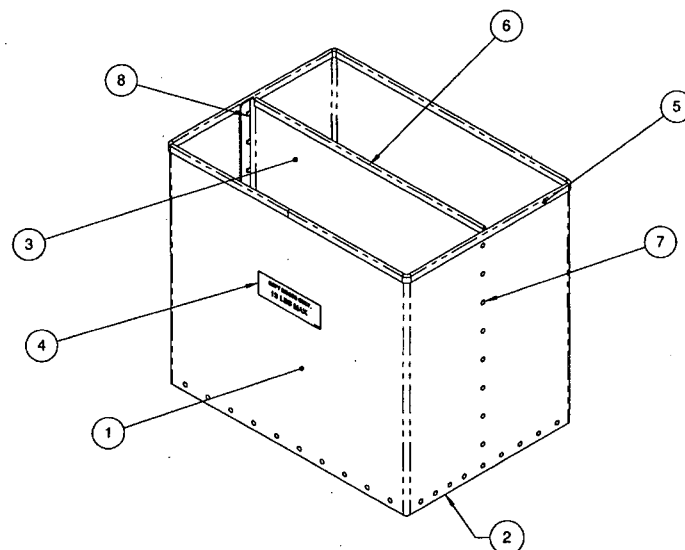
WORK ORDER

NO. 52017

ITEM NO.	QTY. -041	PART NUMBER	DESCRIPTION
1	1	D3936-1	SIDES
2	1	D3936-3	BOTTOM
3	1	D3936-5	DIVIDER
4	1	D3938-3	PLACARD
5	1	D3941-40	RUBBER CUSHION
6	1	D3941-12	RUBBER CUSHION
7	56	MS20426AD3-4	RIVET
8	8	MS20426AD3-5	RIVET

## ASSEMBLY INSTRUCTIONS

- BEND D3936-1/3/5 PARTS PER SHEETS 2-7.
- POSITION D3936-5 DIVIDER IN PLACE INSIDE THE D3936-1 SIDES AND CLECO IN PLACE.
- POSITION THE D3936-3 BOTTOM IN PLACE AGAINST THE D3936-5 DIVIDER AND INSIDE THE D3936-1 SIDES.
- TRANSFER DRILL 10X  $\phi 0.098$  (#40 DRILL) HOLES FROM THE D3936-3 BOTTOM TO THE D3936-5 DIVIDER. PLACE CLECOS IN TRANSFER DRILLED HOLES TO MAINTAIN ALIGNMENT AS THEY ARE DRILLED.
- TRANSFER DRILL 38X  $\phi 0.098$  HOLES FROM D3936-1 SIDES TO D3936-3 BOTTOM. PLACE CLECOS IN TRANSFER DRILLED HOLES TO MAINTAIN ALIGNMENT AS THEY ARE DRILLED.
- REMOVE ALL CLECOS AND COUNTERSINK 64X EXTERIOR HOLES  $\phi 0.179 \times 100^\circ$ . DEBURR ALL HOLES IN ALL PARTS.
- REASSEMBLE PARTS USING CLECOS IN EVERY THIRD HOLE TO MAINTAIN ALIGNMENT.
- RIVET D3936-1 SIDE TO D3936-5 DIVIDER USING MS20426AD3 RIVETS. INSTALL MS20426AD3 RIVETS RANDOMLY THROUGHOUT ASSEMBLY SO THAT ALL PARTS ARE DRAWN TOGETHER EVENLY.
- RIVET D3936-5 DIVIDER TO D3936-3 BOTTOM USING MS20426AD3 RIVETS. INSTALL MS20426AD3 RIVETS RANDOMLY THROUGHOUT ASSEMBLY SO THAT ALL PARTS ARE DRAWN TOGETHER EVENLY.
- RIVET D3936-3 BOTTOM TO D3936-1 SIDE USING MS20426AD3 RIVETS. INSTALL MS20426AD3 RIVETS RANDOMLY THROUGHOUT ASSEMBLY SO THAT ALL PARTS ARE DRAWN TOGETHER EVENLY.
- POWDER COAT ASSEMBLY PER NOTE 2.
- TEST FIT RUBBER CUSHION TO TOP EDGE OF MAPBOX. TRIM AS REQUIRED FOR PROPER FIT.
- REMOVE RUBBER CUSHION.
- APPLY SMALL BEAD OF SILICONE/ADHESIVE TO TOP EDGE OF MAPBOX.
- SLIDE RUBBER CUSHION OVER EDGE AND PRESS INTO SILICONE/ADHESIVE.
- WIPE OFF ANY EXCESS SILICONE/ADHESIVE BEFORE IT DRIES/CURES.
- APPLY D3938-3 PLACARD AS SHOWN.
- ALLOW SEALANT/ADHESIVE TO CURE/DRY 24 HRS BEFORE SHIPPING PART.



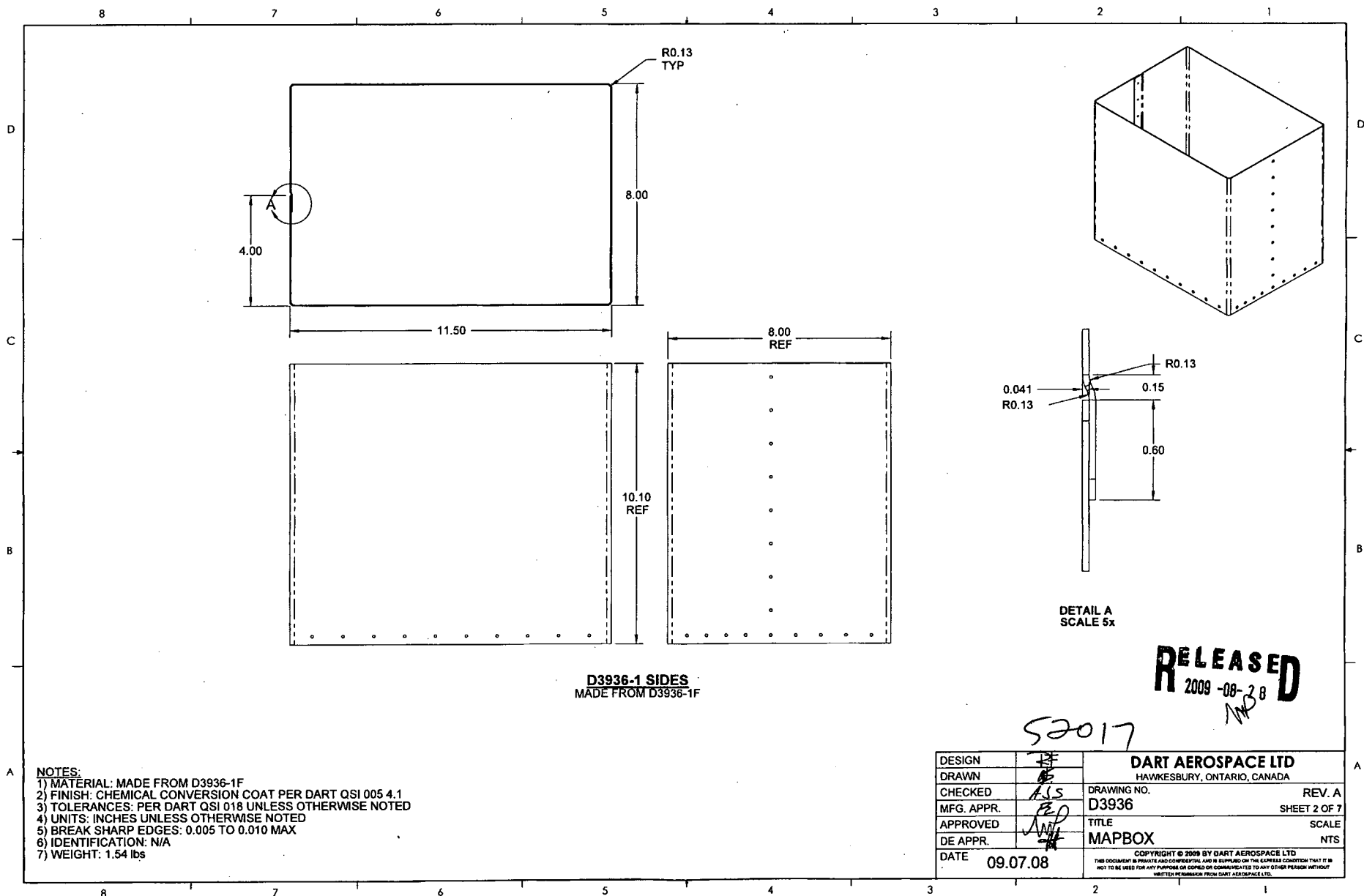
D3936-041 MAPBOX ASSEMBLY

## NOTES:

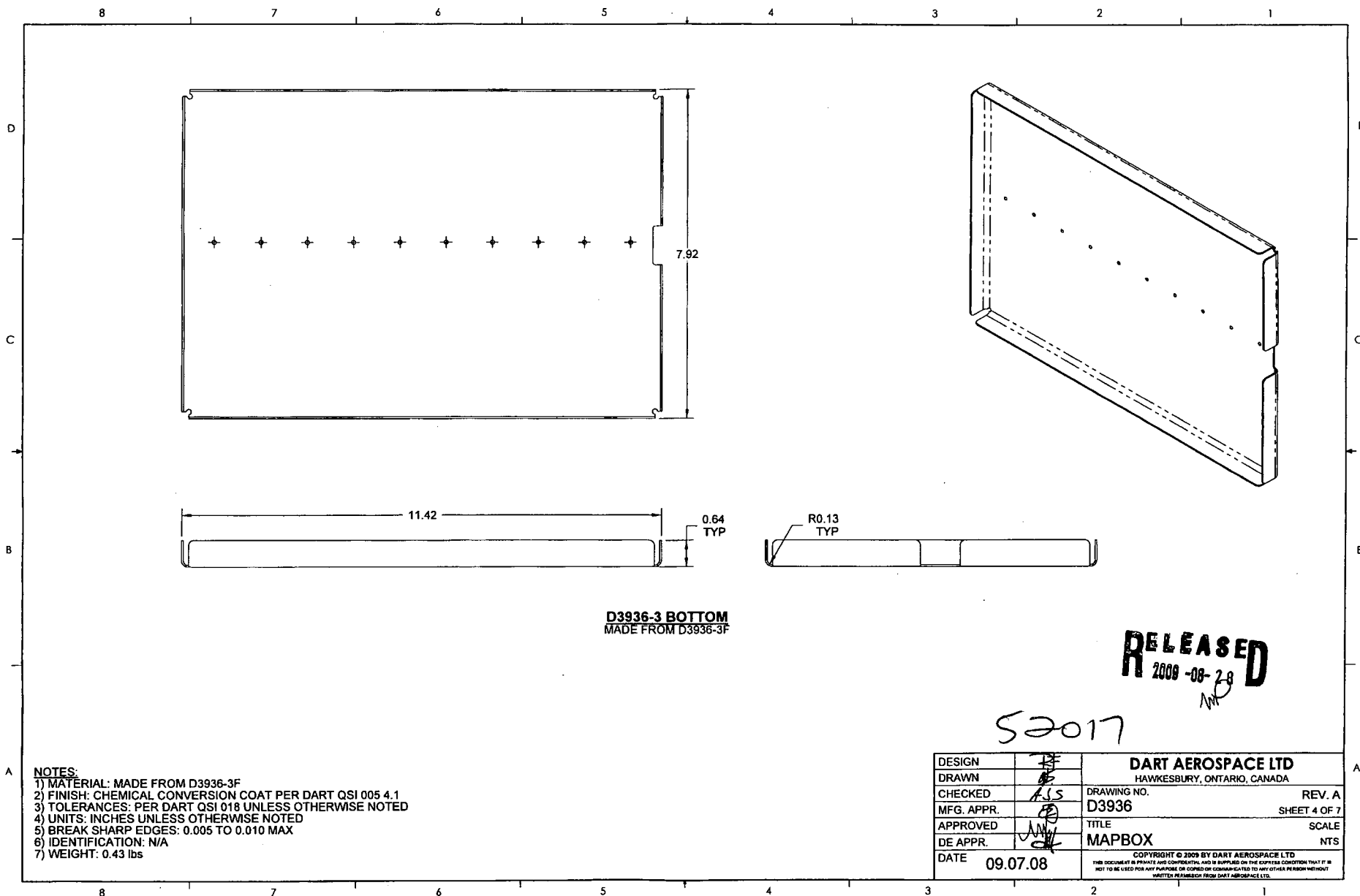
- MATERIAL: N/A
- FINISH: POWDER COAT "BLACK SANDTEX" (4.3.5.7) PER DART QSI 005 4.3
- TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- UNITS: INCHES UNLESS OTHERWISE NOTED
- BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- IDENTIFICATION: IDENTIFY WITH DART P/N "D3936-041" AND B/N USING A WHITE FINE POINT PAINT MARKER
- WEIGHT: 2.54 lbs

RELEASED  
2009-08-28  
AMD

A	NEW ISSUE		09.07.08
REV.	DESCRIPTION		BY DATE
DESIGN	<i>JS</i>	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA  DRAWING NO. <b>D3936</b>  TITLE <b>MAPBOX</b>	REV.
DRAWN	<i>JS</i>		SHEET 1 OF
CHECKED	<i>JS</i>		SCALE
MFG. APPR.	<i>JS</i>		NT
APPROVED	<i>JS</i>		
DE APPR.	<i>JS</i>		
DATE	09.07.08		<b>COPYRIGHT © 2008 BY DART AEROSPACE LTD</b> <small>THIS DOCUMENT IS PRIVATE AND NOT TO BE SUPPLIED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>

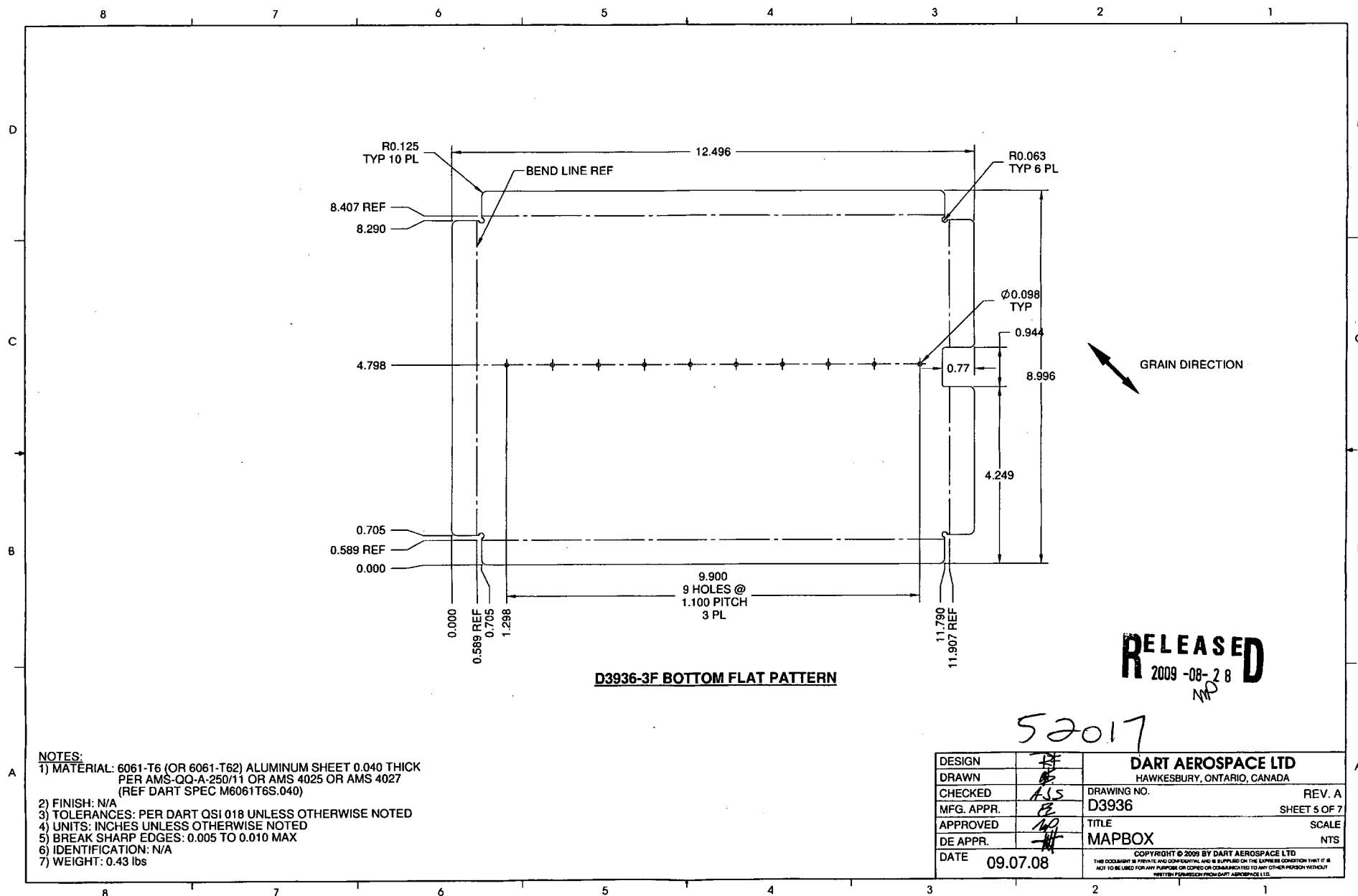






**RELEASED**  
2009-08-28

52017



**RELEASED**  
2009-08-28  
ND

- NOTES:
- 1) MATERIAL: 6061-T6 (OR 6061-T62) ALUMINUM SHEET 0.040 THICK  
PER AMS-QQ-A-250/11 OR AMS 4025 OR AMS 4027  
(REF DART SPEC M6061T6S.040)
  - 2) FINISH: N/A
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 0.43 lbs

DESIGN	<i>DF</i>	<b>DART AEROSPACE LTD</b>	
DRAWN	<i>DE</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>ALS</i>	DRAWING NO.	REV. A
MFG. APPR.	<i>FE</i>	D3936	SHEET 5 OF 7
APPROVED	<i>AD</i>	TITLE	SCALE
DE APPR.	<i>HT</i>	MAPBOX	NTS
DATE	09.07.08	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE LOANED FOR ANY PURPOSE OR COPIED OR REPRODUCED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

52017

